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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,004	10/12/2001	Ken Kasagi	053969-0130	8549
22428	7590	01/30/2004	EXAMINER	
FOLEY AND LARDNER			AU, SCOTT D	
SUITE 500			ART UNIT	
3000 K STREET NW			PAPER NUMBER	
WASHINGTON, DC 20007			2635	

DATE MAILED: 01/30/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

C 17

Office Action Summary

Application No.

09/975,004

Applicant(s)

KASAGI, KEN

Examiner

Scott Au

Art Unit

2635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11-13-03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5 and 7-9 is/are rejected.
- 7) ☒ Claim(s) 2 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 and 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

The application of Kasagi for a "Short range radio continuous communication method and system" filed October 12, 2001 has been examined.

Claims 1-9 are pending.

Specification

The disclosure is objected to because of the following informalities: On page 2, line 14, presently read as "genelation" which the examiner suggests it should be rewritten as "generation", on page 8, line 21, presently read as "comrises" which the examiner suggests it should be rewritten as "comprises" and on page 15, line 16, presently read as "communicating" which the examiner suggests it should be rewritten as "communicating". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigenaga et al. (US# 5,554,984) in view of Tiernay et al. (US# 6,661,352).

Referring to claims 1 and 5, Shigenaga et al. disclose a short range radio communication method and system, in which a DSRC (Dedicated Short Range Communication) that is a short range radio communication used for an ETC (Electronic Toll Collection) that is a non-stop toll collection system is applied, and roadside antennas that are provided at a roadside are continuously arranged, and time sharing operation (col. 2 lines 45-51 and col. 4 lines 15-27, 61-67).

However, Shigenaga et al. did not explicitly disclose time sharing operation is performed by synchronizing sending timing of a communication frame in all of said roadside antennas, comprising:

a step for receiving a communication frame transmitted from an adjacent roadside antenna during the communication with one of said roadside antennas in an on-vehicle device which is a radio set mounted on a vehicle and performs the communication with said roadside antennas.

In the same field of endeavor of an RF roadway toll collection method and system, Tiernay et al. disclose time sharing operation is performed by synchronizing sending timing of a communication frame in all of said roadside antennas (MR1-MR4), comprising:

a step for receiving a communication frame transmitted from an adjacent roadside antenna during the communication with one of said roadside antennas (i.e. MR1-MR4) in an on-vehicle device (23) (i.e. a transponder) which is a radio set mounted on a vehicle and performs the communication with said roadside antennas (i.e. MR1-MR4)

(col. 3 lines 59-67 and col. 4 lines 42-50) in order for the toll system to observe the transactions of vehicle with transponder coming through the toll lanes.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include time sharing operation is performed by synchronizing sending timing of a TDMA communication frame in all of said roadside antennas, comprising:

a step for receiving a TDMA communication frame transmitted from an adjacent roadside antenna during the communication with one of said roadside antennas in a transponder which is mounted on a vehicle and performs the communication with said roadside antennas of toll collection method and system disclosed by Tiernay et al. into toll collection method and system of Shigenaga et al. with the motivation for doing so would the toll collection system to observe and prevent interference between the antennas.

Referring to claim 3, Shigenaga et al. in view of Tiernay et al. disclose the method of claim 1, Tiernay et al. disclose wherein said roadside antennas (i.e. MR1-MR4) are continuously arranged so that part of the effective communication range of each of said roadside antennas (i.e. MR1-MR4) is overlapped onto the effective communication range of the adjacent roadside antenna, and said step is performed when said on-vehicle device (23) (i.e. a transponder) exists in an overlapped part of said effective communication ranges (col. 5 lines 54-67 and col. 8 lines 6-12; see Figure 1).

Referring to claim 4, Shigenaga et al. in view of Tiernay et al. disclose the method of claim 1, Tiernay et al. disclose further comprising a DSRC control step for performing DSRC protocol processing in each of roadside devices (34) (i.e. lane based reader) (col. 3 lines 1-4 and col. 8 lines 55-65; see Figure 3), provided corresponding to said roadside antennas, wherein said time sharing operation is performed by practicing synchronization among all DSRC control steps (col. 4 lines 42-50 and col. 9 lines 26-37).

Referring to claim 7, Shigenaga et al. in view of Tiernay et al. disclose the system of claim 5, Tiernay et al. disclose wherein said roadside antennas (i.e. MR1-MR4) are continuously arranged so that part of the effective communication range of each of said roadside antennas (i.e. MR1-MR4) is overlapped onto the effective communication range of the adjacent roadside antenna, and said means (29) (i.e. wide area reader) receives the communication frame from the adjacent roadside antenna when said on-vehicle device (23) (i.e. a transponder) exists in an overlapped part of said effective communication ranges (col. 5 lines 54-67, col. 8 lines 6-12, col. lines 20-27 and col. 9 lines 26-37; see Figures 1 and 3).

Referring to claim 8, Shigenaga et al. in view of Tiernay et al. disclose the system of claim 5, Tiernay et al. disclose wherein each of roadside devices (34) (i.e. lane based readers) provided corresponding to said roadside antennas includes a DSRC control

section for performing DSRC protocol processing, and said time sharing operation is performed by practicing synchronization among all DSRC control sections (col. 3 lines 1-4, col. 4 lines 42-50 and col. 8 lines 55-65; see Figure 3).

Referring to claim 9, Shigenaga et al. in view of Tiernay et al. disclose the system of claim 5, Tiernay et al. disclose wherein the communication contents which are concurrently taken in a communication frame (i.e. FCM "frame control message") from the communicating roadside antenna (MR1) and a communication frame (i.e. FCM "frame control message") from the adjacent roadside (MR2) antenna are mutually different communication contents (col. 7 lines 51-62).

Claim Objections

Claims 2 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Referring to claim 2, the following is a statement of reasons for the indication allowable subject matter: the prior art fail to suggest limitations that an FCMS detecting step for detecting an FCMS (Frame Control Message Slot) of the communication frame transmitted from said adjacent roadside antenna at stopping timing of the communicating roadside antenna; and a step for switching the communication from the

communicating roadside antenna to the adjacent roadside antenna on the basis of results detected by said FCMS detecting step.

Referring to claim 6, the following is a statement of reasons for the indication allowable subject matter: the prior art fail to suggest limitations that FCMS detecting means for detecting an FCMS (Frame Control Message Slot) of the communication frame transmitted from said adjacent roadside antenna at stopping timing of the communicating roadside antenna; and means for switching the communication from the communicating roadside antenna to the adjacent roadside antenna on the basis of results detected by said FCMS detecting means.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ono et al. (US# 5,686,906) disclose an apparatus for monitoring moving bodies.

Ando et al. (US# 6,081,718) disclose a vehicle communication system for toll collection.

Any inquiry concerning this communication or earlier communications form the examiner should be directed to Scott Au whose telephone number is (703) 305-4680. The examiner can normally be reached on Mon-Fri, 8:30AM – 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached at (703) 305-4704. The fax phone

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numbers for the organization where this application or proceeding is assigned (703)-
872-9306.

Any inquiry of a general nature or relating to the status of this application or
proceeding should be directed to the receptionist whose telephone number is (703)-
305-3900.

Scott Au

SA

MICHAEL HORABIK
SUPERVISORY PATENT EXAMINER
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